DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-024421
Date Inspected: 16-Jun-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name: Steve Jensen

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Tower

Summary of Items Observed:

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

Prior to the start of welding this QA Inspector observed an induction heating system consisting of either the air cooled blanket type or the liquid cooled hose type which appeared to have been positioned over the area to be welded in order to start the preheating process, gas troches are used to bring the preheat temperature to be within the range specified in the Welding Procedure Specification (WPS) as needed. At the completion of welding and/or at the end of the shift it appears the same induction heating system is used to perform the 3 hour post heating.

114 Meter elevation – West Tower – Splice Plates

This QA Inspector observed ABF welding personnel Salvador Sandoval (#2202) using the Shielded Metal Arc Welding (SMAW) process to weld the lower fillet weld in the overhead (4F) position on splice plate weld joint #165-West. This QA Inspector randomly observe d QC Inspector Steve Jensen verify the following welding parameters; 195 amperes using a 4.0 diameter E7018H4R electrode. The welding observed appeared to comply with ABF-WPS-D15-F1200A. The welding at this location is being performed in a small space in which movements are limited.

This QA Inspector observed the overhead fillet weld noted above had been completed and observed ABF welding

personnel Salvador Sandoval (#2202) using the Flux Cored Arc Welding (FCAW) process for production welding in the vertical (3F) position on the bottom half of splice plate weld joint #166-West. This QA Inspector had been informed by QC Inspector Steve Jensen of the following welding parameters; 267 amperes and 21.8 volts at travel speed of 115 mm per minute to produce a heat input of 3.04 Kj per mm. The welding parameters appeared to comply with ABF-WPS-D15-2200-3. This QA Inspector performed a random verification of the travel speed of ABF welding personnel Salvador Sandoval (#2202) later in the shift and observed the travel speed (122 mm per minute) had slightly increased but produced a heat input value within the range specified in the WPS.

During this QA Inspectors' shift welding was periodically observed in the West Towers this date. The progress of work appears to be slow due to the limited access for welding and grinding at all locations. This QA Inspector periodically observed QC Inspector Steve Jensen at this location monitoring the welding.

114 Meter elevation – North Tower – Splice Plates

This QA Inspector was informed by QC Inspector Steve Jensen he had inspected and accepted the fit up of splice plate weld joints #165-North and #166-North. This QA Inspector performed a random verification of the fit up and did not observe any root openings greater than 5 mm and that the work appeared to comply with the contract requirements. This QA Inspector also observed the actual root openings had been marked adjacent to the area to assist the welding personnel in determining the required fillet weld size. This QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) setting to for tack welding. ABF welding personnel Mike Jiminez (#4671) and Paul Frambrini informed this QA Inspector they were in the process of removing the paint from the remaining two splice plates for fit up and that the next fit up may be ready tomorrow.

114 Meter elevation – South Tower – Splice Plates

This QA Inspector randomly observed QC Inspector Tony Sherwood perform Magnetic Particle Testing (MT) on the following splice plate fillet welds; #165-South, #166-South, #165-Southwest and #166-Southwest. QC Inspector Tony Sherwood informed this QA Inspector he had accepted the welds. This QA Inspector performed a verification MT inspection on a minimum of 20% of the area inspected by QC and observed the work appeared to comply with the contract requirements. See Magnetic Particle Inspection Report (TL-6028) this date for further detail. See photo below noting the small size of the space to perform welding and/or inspections. Note this completes all QC and QA inspections for the South tower at the 114 meter elevation.

Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted below there were no notable conversations.

WELDING INSPECTION REPORT

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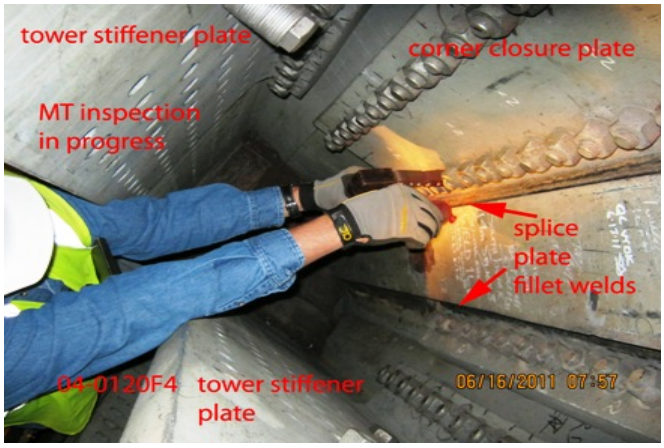

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Hager,Craig	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer